REMARKS/ARGUMENTS

Claims 1, 6, 7, 10-11 and 108 were pending. Claims 1, 10, 11 and 108 and withdrawn claim 44 are amended herein.

Claims 1, 10, 11, 44 and 108 are amended to limit the therapeutic agents of use in combination with the naked humanized anti-CEA MAb to apoptosis agents. The amendment is supported in the published Specification (Publ. No. 20040191248) at least at original claims 32 and 60 and Paragraphs No. [0019], [0051], [0058], [0014], [0163] and [0196].

Claim 1 is also amended herein to recite that the combination of naked anti-CEA MAb and apoptosis agent is more effective for treatment of human medullary thyroid carcinoma or human colorectal cancer than either naked anti-CEA MAb or apoptosis agent alone or the sum of effects of naked anti-CEA MAb and apoptosis agent administered individually. The amendment is supported in the published Specification at least at FIGs. 1, 4, 5, 10 and 15-19, Example 2, Example 5, Example 7, Example 8, Example 9 and Examples 14-17.

Claim 10 is amended to list a Markush group of species of apoptosis agents within the genus of claim 1. The amendment is supported in the published Specification at least at original claims 11, 74-78 and 81 and Paragraphs [0025], [0028]-[0029], [0034], [0039]-[0043], [0104], [0107], [0109]-[0114], [0137], Example 2, Example 5, Example 7, Example 8, Example 9 and Examples 14-17. Each of the species was known in the art as an apoptosis agent, as indicated in the attached publications by Nowak et al. (J. Immunol. 170:4905-13, 2003), Ray et al. (Cancer Res. 63:4713-23, 2003), Rigas et al., (Abstract, Cancer Invest. 20:657-65, 2002), Mani et al. (Abstract, Oncol. 14:52-8, 2000), Groninger et al. (Abstract, Int. J. Oncol. 21:1339-45, 2002), Tsang et al. (Abstract, Life Sci. 73:2047-58, 2003), Shibuya et al. (Abstract, Melanoma Res. 13:457-64, 2003), Ueno et al. (Abstract, Eur. Urol. 42:390-7, 2002) and Simoes-Wust et al. (Breast Cancer Res. 76:157-66, 2002).

Withdrawn claim 44 is amended to depend from or otherwise incorporate all the limitations of the corresponding product claims, to put the method claims in condition to be rejoined if the product claims are found allowable.

Double Patenting

Claims 1, 6, 10, 11 and 108 are rejected on the ground of obviousness-type double patenting over claims 1, 2 and 10 of Griffiths et al. (U.S. 7,011,812, hereafter "Griffiths"), Hansen (U.S. 5,874,540, hereafter "Hansen") and Govindan et al. (USSN 20040001825, hereafter "Govindan"). Applicants respectfully traverse.

Nowhere do Griffiths, Hansen or Govindan, alone or together, disclose a composition comprising a naked, humanized, anti-CEA antibody (unreactive with NCA and MA) and an apoptosis agent, wherein the combination of MAb and apoptosis agent is more effective for treatment of human medullary thyroid carcinoma or human colorectal cancer than the antibody or apoptosis agent alone. Govindan does not even disclose anti-CEA antibodies, but rather concerns RS7 antibodies that bind to EGP-1. There is no disclosure of the combination of a naked anti-CEA MAb with an apoptosis agent and certainly no suggestion of a synergistic effect on human medullary thyroid carcinoma or colorectal cancer. Hansen discloses anti-CEA antibodies, such as MN-14, and the MN-14 CDR sequences. However, it does not disclose the combination of a naked anti-CEA MAb with an apoptosis agent and also contains no suggestion of a synergistic effect on human medullary thyroid carcinoma or colorectal cancer. Griffiths discloses pretargeting methods using bispecific antibodies, including MN-14, but contains no disclosure of a combination of naked anti-CEA MAb with an apoptosis agent that exhibits a synergistic effect on human medullary thyroid carcinoma or colorectal cancer.

Since none of the cited prior art, alone or in combination, discloses the combination of naked anti-CEA MAb with an apoptosis agent that exhibits a synergistic effect on human medullary thyroid carcinoma or colorectal cancer, Applicants request reconsideration and withdrawal of the double-patenting rejection. If the double-patenting rejection is maintained, solely in the interests of advancing prosecution, Applicants are willing to submit a terminal disclaimer if otherwise allowable subject matter is found.

Claim Rejections – 35 U.S.C. § 112

Claims 1, 6, 7, 10, 11 and 108 were rejected under 35 U.S.C. §112, 1st paragraph for lack of enablement. The Action asserts that, "the specification, while being enabling for a composition comprising the anti-CEA antibody (does not recognize NCA and MA) and a cancer therapeutic agent (DTIC and CPT-11) which synergize to produce an anti-cancer therapeutic effect for human medullary thyroid carcinoma and human colorectal cancer, respectively, does not reasonably provide enablement for any combination therapy (any anti-CEA-antibody with any therapeutic agent) producing a synergistic effect in treating any cancer."

Applicants note that the independent claim has been amended to recite, "the combination of naked anti-CEA MAb and apoptosis agent is more effective for treatment of human medullary thyroid carcinoma or human colorectal cancer than either naked anti-CEA MAb or apoptosis agent alone or the sum of the effects of naked anti-CEA MAb and apoptosis agent administered individually." Therefore, it is not a requirement of the claimed subject matter that the combination be synergistic in any cancer, only in human medullary thyroid carcinoma or human colon cancer. The claim language does not exclude the possibility that the recited combination might be synergistic in other types of cancer. However, the only types of cancer in which the combination must be synergistic is limited to human medullary thyroid carcinoma or human colon cancer. Thus, the recitation in the Action with respect to cancer originating from any number of different cell types, with different receptor densities and affinities, etc. is not relevant to the amended claims.

Applicants further note that the claims, as amended, only concern apoptotic agents as the therapeutic agents to be used in combination with anti-CEA MAbs. Thus, the amended claim scope does not relate to, "any pharmaceutical composition with an intended administering step," but rather applies to a much more limited group of agents, which includes both DTIC and CPT-11. As recited in claim 10, the class of apoptotic agents includes vincristine, doxorubicin, decarbazine (DTIC), cyclophosphamide, CPT-11, oxaliplatin, 5-FU/leucovorin and gemcitabine. Each of those was known in the art to be an apoptotic agent.

Applicants respectfully submit that the scope of the amended claims is fully commensurate with the extent of disclosure and is fully enabled by the Specification as filed.

Claim Rejections – 35 U.S.C. § 102

Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheung (USSN 20060160766, priority to 2001, hereafter "Cheung"). The Action asserts that, "Cheung discloses compositions comprising a therapeutic agent comprising an immunopotentiating agent or adjuvant such as beta-glucan in an effective amount and capable of enhancing or synergizing the efficacy of antibodies and their derivatives directed against cancer [005; 0035] and/or chemotherapeutic agents [0059; 0068], where the anti-cancer antibody is an anti-CEA antibody [0069], and a list of treatable cancers is disclosed and include colon cancer [0006]." The Action further states that, "Because the instant claims recite comprising language and Claim 1 is not limited to any kind of therapeutic agent but at least one therapeutic agent whether it is an adjuvant (beta-glucan), a chemotherapeutic agent or both, the claims are properly anticipated by Cheung."

Applicants reiterate that amended claim 1 does not read on "any kind of therapeutic agent" but rather is restricted to those therapeutic agents that are apoptosis agents. There is no evidence of record in the application that beta-glucan is an "apoptosis agent" (i.e., an agent that induces apoptosis) and the words "apoptosis" or "apoptotic" are nowhere recited in Cheung. Further, amended claim 1 clearly reads on therapeutic agents that are themselves apoptosis agents, not merely adjuvants or immunopotentiating agents. Cheung explicitly states at Paragraph [0003] that, "When beta-glucan is administered without co-administration of MoAb, its tumor cytotoxic effect requires the presence of naturally-occurring antitumor antibodies which can be quite variable among patients and even in experimental mice." That is, Cheung leads the skilled artisan to believe that beta-glucan itself is not an apoptosis agent, but merely potentiates the effects of endogenous antibodies.

Applicants further note that Cheung does not even list thyroid medullary carcinoma as an example of a tumor type that might be treated with the beta-glucan combination. Although Cheung does list colon cancer, the skilled artisan reading Cheung would have no reasonable expectation that the combination of an apoptosis agent with an anti-CEA antibody would be synergistic for human colon cancer or thyroid medullary carcinoma. The Examples in Cheung concern treatment of neuroblastoma and lymphoma. No working Examples with any form of human colon cancer were disclosed in Cheung. Thus, based on the disclosure of Cheung in combination with general knowledge in the art, the skilled artisan could have had no reasonable expectation of achieving the claimed invention, which specifically recites combinations that are, " more effective for treatment of human medullary thyroid carcinoma or human colorectal cancer than either naked anti-CEA MAb or apoptosis agent alone or the sum of the effects of naked anti-CEA MAb and apoptosis agent administered individually." Further, Applicants submit that this element of claim 1 is nowhere disclosed in Cheung.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 6, 10, 11 and 108 are rejected under 35 U.S.C. 103(a) as obvious over Cheung in view of Hansen and Griffiths. The Action notes that Griffiths (U.S. 7,011,812) is prior art only under 35 U.S.C. 102(e). [The Action actually recites U.S. 7,001,812, which is a patent by Noda et al. concerning semiconductor devices. Applicants assume this was a typographical error.]

The Action states that the rejection may be overcome by a showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art. Applicant's representative hereby states that the instant application and U.S. 7,011,812 were, at the time the instant invention was made, owned by, or subject to an obligation of assignment to, the same person(s) or organization(s) – i.e., Immunomedics, Inc., and the Griffiths reference is therefore disqualified as 102(e)/103(a) prior art under 35 U.S.C. 103(c).

Conclusion

For the reasons stated above, Applicants submit that the amended claims are in condition for allowance and request withdrawal of the rejections.

Respectfully submitted,

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